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(12) **United States Patent**
Hurlburt(10) Patent N .: **US 6,527,494 B2**
(45) Date of Patent: **Mar. 4, 2003**(54) **TRAILER HAVING TILT AND DUMP FUNCTIONS**(75) Inventor: **Joseph C. Hurlburt, Lancaster, PA (US)**(73) Assignee: **Innovations By Contract, Inc, Lancaster, PA (US)**

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(51) Int. Cl.⁷ **B60P 1/28; B60P 1/30; B60P 1/16**(52) U.S. Cl. **414/482; 414/483; 414/484; 414/485; 298/17.5; 298/22 R**(58) Field of Search **414/482, 483, 414/484, 485; 298/5, 11, 17.5, 22 R**(56) **References Cited****U.S. PATENT DOCUMENTS**

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Primary Examiner—Steven A. Brattie(74) *Attorney, Agent, or Firm*—Miller Law Group, PLLC(57) **ABSTRACT**

A frame configuration that is particularly adaptable for use on a trailer such that the frame configuration is operable in both a tilt mode of operation and a dump mode of operation. An actuating mechanism includes a linear actuator that is supported on the frame by a bracket and a yoke that connects to a load bed to power the vertical movement of the load bed in both tilt and dump functions. The linear actuator is pivotally mounted to permit a re-positioning of the actuator into an inoperative position. The frame configuration is provided with an articulated tilt frame in which the tongue is pivoted thereto allowing the load bed to pivot about a tilt axis which can coincide with the wheel axis of the trailer. The bed frame can be locked to the tilt frame for tilting upon articulation with the tongue, while a disconnection of the bed frame from the tilt frame enables the bed frame to pivot about the dump axis to provide a dump function in addition to the tilt function. The actuator can pivot about the connection thereof to the bed frame to position the actuator into a lowered inoperative transport position generally parallel to the trailer tongue. A modified screw jack can be part of a kit that can be utilized to provide the powered operations of the tilt function for existing gravity-based tilt trailers.

42 Claims, 17 Drawing Sheets